

PHILIPS TECHNICAL REVIEW



VOLUME III

1938

PHILIPS RESEARCH LABORATORY — EINDHOVEN

19
C 1372

CONTENTS

VOLUME III - 1938

LIGHT SOURCES

	page		page
The use of ultraviolet radiation in industrial luminescence research	5	Electrical phenomena in the positive column at low pressure	157
The colour reproduction of electric lamps and "Philiphane" glass	46	Emission of light in the positive column at low pressure	197
The use of the "Philora" H. P. mercury discharge lamp in an enlarging apparatus	91	Low pressure mercury discharge with luminescent tube-wall.	272

RADIATION AND ILLUMINATION

The use of ultraviolet radiation in industrial luminescence research	5	The illumination of the new League of Nations Palace in Geneva	175
Lamp factory and vitamine research	33	Emission of light in the positive column at low pressure	197
The colour reproduction of electric lamps and "Philiphane" glass	46	Low pressure mercury discharge with luminescent tube-wall	272
Work bench illumination	53	The brightness of road surfaces under artificial illumination	313
The use of the "Philora" H.P. mercury discharge lamp in an enlarging apparatus	91	The illumination of passenger ships.	356
Fluorescence	125		
Electrical phenomena in the positive column at low pressure	157		

RADIO AND TELEVISION

A transportable television installation	1	Noise in receiving sets	189
The experimental short wave broadcasting station PCJ	17	Compression and expansion in sound transmission	204
A rotating directional aerial for short wave broadcasting	59	Phenomena in amplifier valves caused by secondary emission	211
Secondary electron emission	80	Radio interference	235
The behaviour of amplifier valves at very high frequencies	103	Radio receivers with push-button tuning . . .	253
Car radio	112	A new frequency-changing valve	266
Technical applications of secondary emission .	133	Television with Nipkow disc and interlaced scanning	285
Thermo-junctions	165		

SOUND AND ITS AMPLIFICATION

Auditorium acoustics and reverberation . . .	65	The diffraction of light by sound film	298
Auditorium acoustics and intelligibility. . .	139	The electro-acoustic installation in the League of Nations Palace in Geneva	322
Compression and expansion in sound transmission	204	Auditorium acoustics and sound absorption . .	363
Sound amplification and public address . . .	221		

CATHODE RAYS

	page	page
Applications of cathode ray tubes I-IV, 50, 148, 248, 339	92, 186	An apparatus for the measurement of scanning speeds of cathode ray tubes 216

X-RAYS

The examination of the macrostructure of materials and products with the help of X-rays, IV, V 92, 186	An X-ray tube for the analysis of crystal structure 259
Automatic macroscopic examination of ma- terials with X-rays 228	The "Rotalix" tube for X-ray diagnosis . . . 292

ELECTROTECHNICAL APPARATUS

"Philite" as a structural material 9	Thermo-junctions 165
Applications of cathode ray tubes, I-IV 50, 148, 248, 339	A simple arrangement for the measurement of the specific resistance of liquids 183
Barretters 74	An apparatus for the measurement of scanning speeds of cathode ray tubes 216
An alternating current dynamo with a flat characteristic for bicycle illumination 87	Radio receivers with push-button tuning . . . 253
Voltage regulation of direct current generators by means of triodes 97	The tensile strength of deposited weld metal . 279
The sealing of metal leads through hard glass and silica 119	Impulse voltage installations 306

MATERIALS AND THEIR RESEARCH

"Philite" as a structural material 9	An X-ray tube for the analysis of crystal struc- ture 259
The examination of the macrostructure of materials and products with the help of X-rays, IV, V 92, 186	The tensile strength of deposited weld metal . 279
The sealing of metal leads through hard glass and silica 119	Impulse voltage installations 306
A simple arrangement for the measurement of the specific resistance of liquids 183	Zirconium and its compounds with a high melting point 345
Automatic macroscopic examination of ma- terials with X-rays 228	Quantitative considerations of electric welding 352

MISCELLANEOUS

The universal decimal classification 27	Fluorescence and phosphorescence 241
Lamp manufacture and vitamine research . . 33	The diffraction of light by sound film 298
Properties and applications of enamelled wire . 39	Quantitative considerations of electric welding 352
Secondary electron emission 80	The production and use of neutrons 339
Fluorescence 125	Review of recent publications 29, 64, 95, 153, 220, 252, 283, 343, 371
Electrical phenomena in the positive column at low pressure 157	